

SPI041285-25

**PATENT OFFICE OF THE PEOPLE'S REPUBLIC OF CHINA**

Address : Receiving Section of the Chinese Patent Office, No. 6 Tucheng Road West, Haidian District, Beijing. Postal code: 100088

Zip Code: 100032 China Sinda Intellectual Property Ltd. B11th Floor, Focus Place, 19 Financial Street, Xicheng District, Beijing 100032, P.R.C. Weimin FAN Qing YANG	Examiner:	
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Application No:	200410035321.1	Date of Issuing:  March 3, 2006
Applicant:	NEC TOKIN CORPORATION	
Title of Invention:	ELECTROCHEMICAL CELL	

**NOTIFICATION OF FIRST OFFICE ACTION**

- ☒ Applicant made the request for substantive examination, in accordance with the provisions of Paragraph 1 of Article 35 of the China Patent Law. The Examiner proceeds with the examination as to substance of the above-identified patent application for invention.  
☐ In accordance with the provisions of Paragraph 2 of Article 35 of the China Patent Law, the China Patent Office has, on its own initiative, decided to proceed with the examination as to substance of the above-identified patent application for invention.
- ☒ Applicant claims the application dated  
April 22, 2003 when the previous application was filed with JP as the priority date,  
 \_\_\_\_\_ when the previous application was filed with \_\_\_\_\_ as the priority date,  
 \_\_\_\_\_ when the previous application was filed with \_\_\_\_\_ as the priority date,  
 \_\_\_\_\_ when the previous application was filed with \_\_\_\_\_ as the priority date,  
 \_\_\_\_\_ when the previous application was filed with \_\_\_\_\_ as the priority date,  
☒ Applicant has furnished the copy of the first-filed application documents certified by the Receiving Administration of the prior filing State.  
☐ Applicant has not yet furnished the copy of the first application documents certified by the Receiving Administration of the prior filing State. According to the provision of Article 30 of the Chinese Patent Law, the claim for the priority shall be deemed not to have been made.
- ☐ Applicant submitted the amended documents on \_\_\_\_\_ and on \_\_\_\_\_,  
 Upon examination, the amendment submitted on \_\_\_\_\_ can not be accepted;  
 the amendment submitted on \_\_\_\_\_ can not be accepted;  
 Because the amendment(s) is (are) not in conformity with  
☐ Article 33 of the Chinese Patent Law.  
☐ Rule 51 of the Implementing Regulations of the Chinese Patent Law.  
 Please refer to the text of the OA in which the specific reason for refusing to accept the amendments is stated.
- ☒ The examination is conducted on the basis of the initial application documents.

☐ The examination is conducted on the basis of the following application documents:

Claims \_\_, pages \_\_ of the Description and pages \_\_ of the Drawings of the initial documents submitted on the filing date;

Claims \_\_, pages \_\_ of the Description and pages \_\_ of the Drawings of the documents submitted on \_\_\_\_\_;

Claims \_\_, pages \_\_ of the Description and pages \_\_ of the Drawings of the documents submitted on \_\_\_\_\_;

Abstract submitted on \_\_\_\_\_.

Abstract Drawing submitted on \_\_\_\_\_.

5. ☐ The notification is made without search.

☒ The notification is made with search.

☒ The following references are cited in the notification. The codes of the references will be used in

the further procedure of examination:

Code	Reference No. or Title	Publication Date (or Filing Date of Conflict Application)
1.	EP1193781A2	April 3, 2002
2.		
3.		
4.		

6. Conclusive opinion:

☐ regarding the Description

☐ the content of the application belongs to the scope of Article 5 of the China Patent Law which can not be granted.

☐ the Description is in conformity with the provisions of Paragraph 3 of Article 26 of the China Patent Law.

☐ the presentation manner of the Description is in conformity with Rule 18 of the Implementing Regulations of the China Patent Law.

☐ the presentation manner of the Description is in conformity with Paragraph 43 of Article 1 of the Implementing Regulations of the China Patent Law.

☒ regarding the Claims

☒ Claims 1-4,6-7 do not possess the novelty under Paragraph 2 of Article 22 of the China Patent Law.

☒ Claims 5 do not possess the inventiveness under Paragraph 3 of Article 22 of the China Patent Law.

☐ Claims \_\_\_\_\_ do not possess the practical applicability under Paragraph 4 of Article 22 of the China Patent Law.

☐ Claims \_\_\_\_\_ do not meet the requirement of Paragraph 4 of Article 26 of the China Patent Law.

☐ Claims \_\_\_\_\_ do not meet the requirement of Paragraph 1 of Article 31 of the China Patent Law.

☐ Claims\_\_\_\_\_do not meet the requirements of Rule 20 of the Implementing Regulations of the China Patent Law.

☐ Claims\_\_\_\_\_do not meet the requirement of Article 9 of the China Patent Law.

☐ Claims\_\_\_\_\_do not meet the requirement of Paragraph 1 of Rule 43 of the Implementing Regulations of the China Patent Law.

Please refer to the text of the notification in detail for the above.

7. Based on the above conclusive opinion, the examiner points out that

☐ applicant should amend the application documents according to the requirements of the text of the notification.

☐ applicant should state the reason that the application may be granted in his observation and amend the application documents according to the teaching of the text of the notification, otherwise, the application may not be granted.

☒ no any substantive contents to be granted are presented in the application. If the applicant does not submit his observation or his observation is not reasonable, the application will be rejected.

☐

8. Following items shall come to applicant's attention:

(1) According to Article 37 of the China Patent Law, applicant should submit his observation within 4 months from the date he receives the notification. If, without any justified reason, the time limit for making a response is not meet, the application will be deemed to be withdrawn.

(2) The amendments to the application documents should meet the requirement of Article 33 of the China Patent Law. The amendment text should be submitted in two copies and the amending manner should comply with the relevant regulations of the Examination Guide.

(3) The observation and / or amendment documents should be mailed to or submitted directly to the Receiving Section of the China Patent Office, otherwise, the submitted documents have no legal effect.

(4) The applicant and / or attorney may not meet the examiner if an appointment has not been made.

9. The text of this notification consists of 2 pages, including the following annexes:

☒ 23 pages of 1 copy of the cited references.

## Text of the First Office Action

The present application relates to an electrochemical cell. As stated in the Description, the object of the present invention is to provide an electrochemical cell exhibiting improved capacity, high-speed charge/discharge properties and cycle-life properties. Upon examination, the Examiner gives the following comments:

### Claims 1-4 lack novelty.

1. Claim 1 relates to an electrochemical cell. D1 (EP1193781A2, see page 4, paragraph 0038; page 5, paragraph 0049; page 6, paragraph 0065; and page 7, paragraph 0072) discloses an electrochemical cell, comprising:

an anode made of a proton-conducting polymer such as polyaniline and polypyrrole  
a cathode made of a metal such as aluminum and aluminum alloy, the metal being coated with an organic coating film having a group selected from  $-\text{COOH}$ ,  $-\text{SO}_3\text{H}$ ,  $-\text{OH}$  and  $-\text{NO}_2$  (i.e., proton-conducting); and  
an electrolytic solution that may be an aqueous electrolytic solution such as sulfuric acid (i.e., a proton source),  
wherein the electrolytic solution comprises a copolymer formed by self-polymerization of glycerol, ethylene glycol or the like, and  
polyglycerol or polyethylene glycol has an atom with an unpaired electron in its principle chain.

As can be seen, the technical solution of claim 1 is disclosed by D1. D1 and claim 1 belong to the same technical field, solve the same technical problem by using the same technical solution, and achieve the same technical effect. Therefore, claim 1 does not possess novelty under Article 22, Paragraph 2 of the Chinese Patent Law.

2. Claim 2, which is dependent on claim 1, further specifies that the polymeric compound added to the electrolytic solution has oxygen or nitrogen as an atom with an unpaired electron in the principal chain. Claim 3, which is dependent on claim 1, further specifies that the polymeric compound has an alkylene oxide moiety in a repeating unit. Claim 4, which is dependent on claim 1, further defines the materials from which the polymeric compound is selected. D1 discloses that the copolymer added to the electrolytic solution, i.e., polyglycerol or polyethylene glycol, includes both oxygen or nitrogen as an atom with an unpaired electron in the principal chain and an alkylene oxide moiety. Therefore, when claim 1 lacks novelty, dependent claims 2-4 which refer to it also lack novelty under Article 22, Paragraph 2 of the Chinese Patent Law.

### Claim 5 lacks inventiveness.

3. Claim 5, which is dependent on claim 1, further specifies that the polymeric compound has an average molecular weight of 200 to 20,000. Although D1 does not mention the molecular weight of the added polymer, those skilled in the art can select an appropriate molecular weight of the added polymer through conventional experiments. Accordingly, it is obvious to those skilled in the art that the technical solution of claim 5 can be obtained on the basis of D1 in combination with conventional techniques. Therefore, claim 5 lacks inventiveness under Article 22, Paragraph 3 of the Chinese Patent Law.

Claims 6 and 7 lack novelty.

4. Claim 6, which is dependent on claim 1, includes the following additional technical features: "a content of the polymeric compound is 0.01 to 30 wt% to the electrolytic solution". D1 (see paragraph 0074) discloses that the content of the polymeric additive is in the range of 0.001 to 30% by weight to the electrolytic solution. The range of values disclosed in D1 partly overlaps with the range of values in claim 6. That is, the additional technical features of claim 6 are disclosed by D1. Claim 7, which is dependent on claim 1, further specifies that protons are used as a charge carrier in the cell reaction. In D1, the cell contains a sulfuric acid as an electrolyte solution. The electrolyte in D1 is a proton-supplying electrolyte, and protons are used as a charge carrier in the cell reaction. Therefore, when claim 1 lacks novelty, claims 6 and 7 which refer to it also lack novelty under Article 22, Paragraph 2 of the Chinese Patent Law.

For the reasons mentioned above, the claims of the present application lack novelty or inventiveness. The applicant should make a response to address the defects within the specified time limit. The application will be rejected if the applicant fails to provide convincing arguments for its novelty or inventiveness. Note that any amendments to the application shall not go beyond the disclosure of the original Description and Claims under Article 33 of the Chinese Patent Law.



# 中华人民共和国国家知识产权局

041285-21

邮政编码: 100032

北京市西城区金融街 19 号富凯大厦 B 座 11 层

中原信达知识产权代理有限责任公司

樊卫民、杨青

发文日期

申请号: 2004100353211



申请人: NEC 东金株式会社

绝 限

2006-07-18

发明创造名称: 电化学电池



## 第一次审查意见通知书

1. ☒ 应申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 国家知识产权局对上述发明专利申请进行实质审查。

☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局决定自行对上述发明专利申请进行审查。

2. ☒ 申请人要求以在:

JP 专利局的申请日 2003 年 04 月 22 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日,  
 专利局的申请日 年 月 日为优先权日。

☒ 申请人已经提交了经原申请国受理机关证明的第一次提出的在先申请文件的副本。

☐ 申请人尚未提交经原申请国受理机关证明的第一次提出的在先申请文件的副本, 根据专利法第 30 条的规定视为未提出优先权要求。

3. ☐ 经审查, 申请入于:

年 月 日提交的  
 年 月 日提交的  
 年 月 日提交的

不符合实施细则第 5 条的规定;  
 不符合专利法第 33 条的规定;



4. 审查针对的申请文件:

☒ 原始申请文件。 ☐ 审查是针对下述申请文件的

申请日提交的原始申请文件的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的权利要求第	项、说明书第	页、附图第	页;
年 月 日提交的说明书摘要,	年 月 日提交的摘要附图。		

5. ☐ 本通知书是在未进行检索的情况下作出的。

☒ 本通知书是在进行了检索的情况下作出的。

☒ 本通知书引用下述对比文献(其编号在今后的审查过程中继续沿用):

编号	文件号或名称	公开日期(或抵触申请的申请日)
1	EP1193781A2	2002-04-03

6. 审查的结论性意见:

☐ 关于说明书:

☐ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。

☐ 说明书不符合专利法第 26 条第 3 款的规定。

21301  
2002.8



回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收  
 (注: 凡寄给审查员个人的信函不具有法律效力)

申请号 2004100353211

- ☐ 说明书不符合专利法第 33 条的规定。
- ☐ 说明书的撰写不符合实施细则第 18 条的规定。
- ☐
- ☒ 关于权利要求书:
- ☒ 权利要求 1、4、6-7 不具备专利法第 22 条第 2 款规定的新颖性。
- ☒ 权利要求 5 不具备专利法第 22 条第 3 款规定的创造性。
- ☐ 权利要求 不具备专利法第 22 条第 4 款规定的实用性。
- ☐ 权利要求 属于专利法第 25 条规定的不授予专利权的范围。
- ☐ 权利要求 不符合专利法第 26 条第 4 款的规定。
- ☐ 权利要求 不符合专利法第 31 条第 1 款的规定。
- ☐ 权利要求 不符合专利法第 33 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 2 条第 1 款关于发明的定义。
- ☐ 权利要求 不符合专利法实施细则第 13 条第 1 款的规定。
- ☐ 权利要求 不符合专利法实施细则第 20 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 21 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 22 条的规定。
- ☐ 权利要求 不符合专利法实施细则第 23 条的规定。
- ☐

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见, 审查员认为:

- ☐ 申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。
- ☐ 申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
- ☒ 专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其中请将被驳回。
- ☐

8. 申请人应注意下述事项:

- (1) 根据专利法第 37 条的规定, 申请人应在收到本通知书之日起的肆个月内陈述意见, 如果申请人无正当理由逾期不答复, 其中请将被视为撤回。
- (2) 申请人对其申请的修改应符合专利法第 33 条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
- (3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
- (4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 2 页, 并附有下列附件:

- ☒ 引用的对比文件的复印件共 1 份 23 页。 ☐

审查员: 艾娟(9658)

2006 年 2 月 13 日

审查部门 审查协作中心

21301  
2002.8回函请寄: 100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收  
(注: 凡寄给审查员个人的信函不具有法律效力)

申請号: 200410035321.1

## 第一次审查意见通知书正文

本申请涉及一种电化学电池。如说明书所述,其发明目的在于:提供具有改善的容量、快速充/放电特性和循环寿命的电化学电池。经审查,现提出如下的审查意见:

### 权利要求1-4 不具备新颖性

1、权利要求1请求保护一种电化学电池,对比文件1(EP1193781A2)公开了一种电化学电池,并具体披露了以下技术特征(参见其说明书第4页0036、0038,第5页0049,第6页0065,第7页0072部分):该电池包括正极、负极和电解液;其中正极可选择聚苯胺、聚吡咯等质子传导型导电聚合物;负极可选择铝、铝合金等,并在金属上覆盖带有-COOH、-SO<sub>3</sub>H、-OH、-NO<sub>2</sub>等基团的有机物包覆层(质子传导);电解液可选择硫酸(质子源)等水溶液电解液,并在电解液中添加了甘油、乙二醇等自身聚合的共聚物,聚甘油、聚乙二醇在主链上含有不成对电子的原子。综上所述,权利要求1的技术方案已经被对比文件1完全公开,且它们属于相同的技术领域,解决的技术问题相同,采取的技术方案相同,达到的技术效果相同,因此,权利要求1不具备专利法第二十二条第二款规定的新颖性。

2、权利要求2是权利要求1的从属权利要求,其附加技术特征是:加入到电解液中的聚合物在主链上含有氧或氮作为不成对电子的原子。权利要求3是权利要求1的从属权利要求,其附加技术特征是:聚合物的重复单元中具有烯化氧部分。权利要求4是权利要求1的从属权利要求,其附加技术特征是:聚合物具体选择的物质。对比文件1公开的添加在电解液中的共聚物——聚甘油、聚乙二醇在主链上含有不成对电子的氧原子,并具有烯化氧部分。因此,当其引用的权利要求1不具有新颖性时,从属权利要求2-4也不具备专利法第二十二条第二款规定的新颖性。

### 权利要求5 不具备创造性

3、权利要求5是权利要求1的从属权利要求,其附加技术特征是:聚合物的平均分子量为200-20000。虽然对比文件1中未提及添加的聚合物的分子量,



申請号: 200410035321.1

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但本领域技术人员可以通过常规试验选择得到合适分子量的聚合物,也就是说,在对比文件1的基础上结合本领域常用技术手段以获得权利要求5所请求保护的技术方案,对本技术领域技术人员来说是显而易见的。因此,权利要求5所要求保护的方案不具备突出的实质性特点,不具备专利法第二十二条第三款规定的创造性。

#### 权利要求6、7不具备新颖性

4、权利要求6是权利要求1的从属权利要求,其附加技术特征是:聚合物的含量为电解液的0.01-30重量%。对比文件1还公开了聚合物添加剂的含量为电解液的0.001-30重量%(参见其说明书0074部分);对比文件1公开的数值范围与权利要求6的有重叠部分,相当于披露了该特征。权利要求7是权利要求1的从属权利要求,其附加技术特征是:电池反应以质子作为电荷载流子。对比文件1公开的电池以硫酸作为电解液,是一种供质子的电解质,电池反应中以质子作为电荷载流子。因此,当其引用的权利要求1不具有新颖性时,从属权利要求6、7也不具备专利法第二十二条第二款规定的新颖性。

基于上述理由,本申请的权利要求都不具备新颖性或创造性,申请人应在本通知书指定的答复期限内做出答复,对本通知书中提出的所有问题逐一详细地做出说明,如果申请人不能提出表明本申请具有新颖性或创造性的充分理由,本申请将被驳回。申请人对申请文件的修改应当符合专利法第三十三条的规定,不得超出原说明书和权利要求书的记载范围。

审查员: 艾 娟

电 话: 010-82755422